

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
16 June 2005 (16.06.2005)

PCT

(10) International Publication Number
WO 2005/054221 A1

(51) International Patent Classification⁷: **C07D 307/60**, 307/62, A61K 31/365, A61P 25/00, 29/00, 35/00

Ester [ES/ES]; C/Miguel de Cervantes, 13; Moralzarzal, E-28411 Madrid (ES). **PÉREZ NAVARRO, Darío** [ES/ES]; C/Moreras, 5, Torrelodones, E-28250 Madrid (ES). **MEDINA PADILLA, Miguel** [ES/ES]; C/Antonio López Aguado, 9, 9º G, E-28029 Madrid (ES).

(21) International Application Number:
PCT/GB2004/050033

(22) International Filing Date: 2 December 2004 (02.12.2004)
(74) Agent: **MARKS & CLERK**; 66-68 Hills Road, Cambridge, Cambridgeshire CB2 1LA (GB).

(25) Filing Language: English

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(26) Publication Language: English
(30) Priority Data:
0327908.0 2 December 2003 (02.12.2003) GB

(71) Applicant (for all designated States except US): **NEUROPHARMA, S.A.** [ES/ES]; Avda. de la Industria, 52, Tres Cantos, E-28760 Madrid (ES).

(71) Applicant (for SD only): **RUFFLES, Graham Keith** [GB/GB]; 66-68 Hills Road, Cambridge Cambridgeshire CB2 1LA (GB).

(72) Inventors; and

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

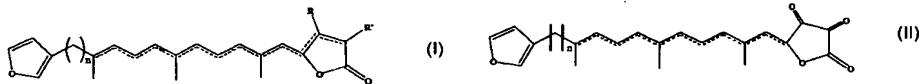
(75) Inventors/Applicants (for US only): **ALONSO GORDILLO, Diana** [ES/ES]; C/Ramón y Cajal, 2, portal 8, 3ºC, Madrid (ES). **DORRONSORO DÍAZ, Isabel** [ES/ES]; C/Valliciergo, 3, portal 3, 5ºA, E-28005 Madrid (ES). **MARTINEZ GIL, Ana** [ES/ES]; C/ Santa Teresa 12, 2 Izq, E-28004 Madrid (ES). **PANIZO DEL PLIEGO, Gema** [ES/ES]; C/Cuevas de Almanzora, 185, 3ºB, E-28033 Madrid (ES). **FUERTES HUERTA, Ana** [ES/ES]; C/Alenza 9, 5º derecha, E-28003 Madrid (ES). **PÉREZ PUERTO, Ma José** [ES/ES]; C/Julio López, 5, 2ºB, E-28002 Madrid (ES). **MARTÍN APARICIO,**

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: GSK-3 INHIBITORS ISOLATED FROM MARINE ORGANISMS



(57) Abstract: The present invention provides the use of a compound of formula (I); wherein: n is 0, 1, 2, or 3, the bonds shown with the dashed lines are saturated, or unsaturated with one or more double bonds; R, and R' are independently selected from hydrogen, alkyl, aryl, -OH, -OR'', -SH, -SR'', -NH.. -NHR'', =O, =NH, =NR''; R'' is independently selected from alkyl, aryl, in the preparation of a medicament for the treatment of a disease requiring a GSK-3 inhibitor. Also provided is a compound of formula (II); wherein n is 0, 1, 2, or 3 the bonds shown with the dashed lines are saturated, or unsaturated with one or more double bonds. Also provided are methods of treating chronic neurodegenerative conditions.

WO 2005/054221 A1